

3. Remarks on Australian Crocodiles, and Description of a New Species. By GERARD KREFFT, F.L.S., C.M.Z.S.*

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About a year or two ago I sent to Dr. Gray the photograph of a Crocodile's skull, which he examined and considered to be undescribed. The name of *Tomistoma krefftii* was proposed for it; but I cannot find the description in any of the works at my disposal.

During the process of cleaning and bleaching the skull, it was injured by rats, and the end of the snout is now broken and some teeth lost; otherwise it is in tolerable condition, and appears to agree with *Crocodylus schlegelii*, as figured by De Blainville (*Ostéographie*, Atlas, vol. ii. pl. 5), with this difference, that the *mandibular symphysis* extends to the 15th tooth in *C. schlegelii*, and to the 6th tooth only in *T. krefftii* (Gray). There are 18, or perhaps 19, teeth above, and 15 teeth below, on each side, a notch being observed behind the 4th (or 5th) tooth, with a small pit for the lower canines.

* The following letter, referring to this paper, has been addressed to the Secretary by Dr. J. E. Gray, F.R.S.:—

SIR,—Mr. Krefft has just sent to me the photograph of a Crocodile from Australia, which he has named *Crocodylus johnsonii*, with the request that I would communicate to the Society some observations upon it.

The photograph is about 22 inches long, and represents the dorsal view of the animal.

There is no doubt that it represents a species of *Crocodylidae*, from the form of the cervical and nuchal shields; but in many respects the beak is similar to that of *Tomistoma*, the Bornean Gavial. The beak is more slender than in any typical Crocodile of the Old World that has occurred to me. It is somewhat like that of *Molinia intermedia*, from the Orinoco, figured in the *Trans. Zool. Soc.* 1869, vi. p. 151. f. 4, 5, and pl. 32. f. 4-6; but it differs from that species in the beak being more slender, not being swollen on the sides, or so broad and circular at the end, and also in the shields of the neck and back, which are very different.

In many respects the appearance of the animal, and the form of the beak, are much like (especially in the want of dilatation at the sides, and in the moderate breadth of the end) those of the African false Gavial, *Mecistops cataphractus*; but it has well-developed lateral cervical shields, which are wanting in all the African specimens I have hitherto observed; and one cannot understand how a West-African Crocodile can have been taken to or found in Australia.

Judging from the photograph, I believe it to be a new species of Crocodile; and the form, as far as I know, is peculiar to Australia.

I am, Sir,

Yours truly,

JOHN EDW. GRAY.

P.S.—I strongly suspect that the photograph of the head for which Mr. Krefft says I had proposed the name of *Tomistoma krefftii* belongs to *Crocodylus johnsonii*.

The examination of a photograph of the upper part of the head would induce one, on account of the slender conical form of the beak and the absence of large canine teeth, to consider it a species of *Tomistoma*; but the examination of the photographs of the skin, showing the eight cervical plates separated from the dorsal shield, and the short symphysis of the lower jaw, mentioned by Mr. Krefft, show that it is a Crocodile, and not a Gavial.

The 5th tooth, counting from this notch backwards, is the largest of the upper series; below, the 4th tooth is the largest.

The genus *Tomistoma* is described as:—"Teeth $\frac{20 \cdot 20}{18 \cdot 18}$, the mandibular symphysis extending to the 15th tooth, and the intermaxillary bone reaching to the 2nd canine." My specimen does not agree with this, and therefore it cannot belong to the genus *Tomistoma*. Of course, Dr. Gray could not know these facts, as he only had a photograph to go by; and I remarked the difference only since the skin had been removed from the skull.

A few days ago I received a fine and perfect skin of another Crocodile from Cardwell, through the kindness of Mr. C. Bloxland, jun., of Ryde, on the Paramatta river; and of this Crocodile, which I think is new to science, I shall give a short description.

CROCODILUS JOHNSONI, sp. nov.

Total length 7 feet, the head being 1 foot 4 inches. There are two groups of nuchal plates upon the neck, the first consisting of four disks of unequal size, divided by an interspace of about half an inch, the whole resembling in shape the figure ∞ .

The second group, divided from the first by about 2 inches, may be compared to a distorted rhombic figure. It consists of two large disks, rather square in shape above, of a smaller pair below (all touching each other), and of an outer pair, one on the right, the other on the left side. All the disks are strongly keeled.

A single disk forms the first dorsal row of plates, two disks the next, the third and fourth having four disks each; after which follow two rows of six plates, and seven of eight, the outer ones being rather feebly keeled. The number of plates then diminishes again, there being two of six and four of four plates each, to the root of the tail. The total number of plate-rows from the posterior nuchal group to the base of the tail amounts to 19 in all. The tail is encircled by 29 bands up to the tip. The teeth number $\frac{19 \cdot 19}{16 \cdot 16}$, the 10th above and the 12th below being the strongest. The hindermost teeth are short and conical, the rest being more elongate; and all are flattened on the inner side. The first pair of lower front teeth fit into perforations in the upper jaw.

The narrowest part of the snout is contained nine times in its length from the nostrils to the eyes.

Colour dark greenish, with some broad spots on the side of the tail.

Discovered by Mr. Johnson, of Cardwell, Rockingham Bay, Queensland, and supposed to be adult.